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10/593,546	09/19/2006	Patrick J. Kelleher	1223-022	4471

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EXAMINER	
BELLAMY, TAMIKO D	

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2856	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,546	KELLEHER ET AL.	
	Examiner	Art Unit	
	TAMIKO D. BELLAMY	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _preliminary amendment 23 April 2007_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-37_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-37_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _19 September 2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _11/22/06_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-34, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mackenzie et al. (2005/0076709).

Re claim 1, as depicted in figs. 3 and 4, Mackenzie et al. discloses spherical body (e.g., domed/hemispherical shaped penetrating tip 30) attached to the end of a shaft (33) (Pg. 2, Par. 56). Mackenzie et al. discloses the shaft (33) being of substantially smaller diameter than the diameter of the spherical body (e.g., domed/hemispherical shaped penetrating tip 30). Mackenzie et al. discloses the shaft (33) being adapted to associated with a module {e.g., electric circuit (41) a load cell (37) including strain gauge (40), and an accelerometer all of which are in the strain gauge housing (39)} containing an axial force measuring sensor (e.g., accelerometer, strain gauge (40)) and data transmitter (Pg. 1, Pars. 12-24; Pg. 3, Pars. 60, 78-82). As depicted in fig. 3, the shaft (33) and the attached spherical body (e.g., domed/hemispherical shaped penetrating tip 30) moves in **vertical direction** upon impact of soil/snow which is equivalent axial movement. While Mackenzie et al. does not specifically disclose a sleeve adapted **to isolate the shaft from <u>external soil friction</u>**, as depicted in fig. 3, Mackenzie et al. discloses a sleeve member (e.g., tube 36) enclosing the shaft (33), wherein the shaft (33) is not in direct contact with

the soil. Therefore, to employ Mackenzie et al. on sleeve that isolates the shaft from external soil friction would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a sleeve that encloses a shaft.

Re claim 2, as depicted in fig. 1 and 3, Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) is provided with a porous material (See fig. 1, radial opening in surface of spherical body (20,20A). Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) includes at least a passage/channel providing for fluid communication between the porous material (See fig. 1, e.g., radial opening in surface of spherical body (20)) and a pressure sensor Pg. 2, Par. 34).

Re claims 3 and 4, as depicted in fig. 1, Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 20, 20A) provided with a porous material (See fig. 1, e.g., radial opening on surface of spherical body (20,20A)) including a channel/passage for fluid communication. Mackenzie et al. discloses water pressure sensor (Pg. 2, Par. 34). Mackenzie et al. lacks the detail of a porous material provided as a circumferential porous ring. However, the court held in In re Kuhle, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975), where the instant specification and evidence of record fail to attribute any significance (novel or unexpected results) to a particular arrangement, the particular arrangement is deemed to have been a design consideration within the skill of the art. The device of Mackenzie et al. would operated equally as well if a circumferential porous ring where added to the outer surface of the spherical body since the water would still enter in a channel/passage in the spherical body for the same

purpose of providing fluid communication to a water pressure sensor. Therefore, to employ Mackenzie et al. on a circumferential porous ring would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a porous spherical body including a channel providing fluid communication to a pressure sensor.

Re claim 5, Mackenzie et al. discloses the shaft (33) being adapted to associated with a module {e.g., electric circuit (41) a load cell (37) including strain gauge (40), and an accelerometer all of which are in the strain gauge housing (39)} containing an axial force measuring sensor (e.g., accelerometer, strain gauge (40)) (Pg. 1, Pars. 12-24; Pg. 3, Pars. 60, 78-82). As depicted in fig. 3, the shaft (33) and the attached spherical body (e.g., domed/hemispherical shaped penetrating tip 30) moves in **vertical direction** upon impact of soil/snow which is equivalent axial movement. Mackenzie et al. discloses that the accelerometer may be apart of or separate unit in the head (20, 30) as long as it movement is parallel the movement of the head (Pg. 2, par. 25). As depicted in fig. 3, the head (30) moves in a vertical up/direction which is equivalent to a bi-directional movement. Since the accelerometer moves parallel to the bi-directional movement of the head (30), the accelerometer measures bi-directional force.

Re claim 6, as depicted in fig. 3, Mackenzie et al. discloses at least one flexible sealing member (See o-ring between element numbers (31) and (32)) that associates the sleeve (e.g., tube 36) with the spherical body (e.g., hemispherical/domed penetrating tip 30). Mackenzie et al. discloses at least one flexible sealing member (See o-ring between

element numbers (43) and (41)) that associates the sleeve (e.g., tube 36) with the housing of the module (e.g., strain gauge housing 39).

Re claim 7, as depicted in figs. 1 and 3, Mackenzie et al. discloses the pressure sensor is located within the module and the shaft (33) includes a least one passage providing fluid communication to the pressure sensor (Pg. 2, par. 34).

Re claim 8, as depicted in fig. 1, Mackenzie et al. discloses a radial passage (See opening on surface of spherical body 20,20A).

Re claim 9, as depicted in fig. 3, Mackenzie et al. discloses an electronics module (e.g., combination of electronics circuitry (41) in housing (39)).

Re claim 10, as depicted in fig. 3, Mackenzie et al. discloses an electronics module (e.g., combination of electronics circuitry (41) in housing (39)). While Mackenzie et al. lacks the detail of **interchanging different types of electronics modules, Mackenzie et al. discloses it may be desirable to add sensors to the sensing unit (See Pg. 2, par. 34).** Furthermore the court held in <u>In re Dulberg</u>, 283 F.2d 522, 129 USPQ 348 (CCPA 1961), that the separation of elements, where removability would be desirable, is a design consideration within the skill of the art. Since changing the electronic the module, **requires removing** on electronic module and replacing it another, the interchangeable module is equivalent to removable module. Therefore, to employ Mackenzie et al. on an interchangeable electronics module would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches adding additional components/sensors to a module.

Re claim 11, as depicted in fig. 3, Mackenzie et al. discloses at least one flexible sealing member (See **o-ring** between element numbers (31) and (32)) that associates the sleeve (e.g., tube 36) with the spherical body (e.g., hemispherical/domed penetrating tip 30). Mackenzie et al. discloses at least one flexible sealing member (See **o-ring** between element numbers (43) and (41)) that associates the sleeve (e.g., tube 36) with the housing of the module (e.g., strain gauge housing 39).

Re claim 12, as depicted in fig. 1, Mackenzie et al. discloses a hemispherical body (20, 20A) including a passage/channel. While Mackenzie et al. does not specifically disclose the spherical body is constructed from two hemispherical bodies together that define at least one passage, the court held in In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), that a change in the shape of a prior art device is a design consideration within the skill of the art. Therefore, to employ Mackenzie et al. on a spherical body constructed of two hemispherical bodies would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a hemispherical body having a channel within.

Re claim 13, as depicted in figs. 3 and 4, Mackenzie et al. discloses spherical body (e.g., domed/hemispherical shaped penetrating tip 30) attached to the end of a shaft (33) (Pg. 2, Par. 56). Mackenzie et al. discloses the shaft (33) being of substantially smaller diameter than the diameter of the spherical body (e.g., domed/hemispherical shaped penetrating tip 30). Mackenzie et al. discloses the shaft (33) being adapted to associated with a module {e.g., electric circuit (41) a load cell (37) including strain gauge (40), and an accelerometer all of which are in the strain gauge housing (39)} containing an axial

force measuring sensor (e.g., accelerometer, strain gauge (40)) and data transmitter (Pg. 1, Pars. 12-24; Pg. 3, Pars. 60, 78-82). As depicted in fig. 1 and 3, Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) is provided with a porous material (See fig. 1, radial opening in surface of spherical body (20,20A). Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) includes at least a passage/channel providing for fluid communication between the porous material (See fig. 1, e.g., radial opening in surface of spherical body (20)) and a pressure sensor Pg. 2, Par. 34).

Re claim 14, as depicted in fig. 3, Mackenzie et al. discloses the shaft (33) and the attached spherical body (e.g., domed/hemispherical shaped penetrating tip 30) moves in **vertical direction** upon impact of soil/snow which is equivalent axial movement. While Mackenzie et al. does not specifically disclose a sleeve adapted **to isolate the shaft from external soil friction**, as depicted in fig. 3, Mackenzie et al. discloses a sleeve member (e.g., tube 36) enclosing the shaft (33), wherein the shaft (33) is not in direct contact with the soil. Therefore, to employ Mackenzie et al. on sleeve that isolates the shaft from external soil friction would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a sleeve that encloses a shaft.

Re claims 15 and 16, as depicted in fig. 1, Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 20, 20A) provided with a porous material (See fig. 1, e.g., radial opening on surface of spherical body (20,20A)) including a channel/passage for fluid communication. Mackenzie et al. discloses water pressure sensor (Pg. 2, Par. 34). Mackenzie et al. lacks the detail of a porous material provided as

a circumferential porous ring. However, the court held in In re Kuhle, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975), where the instant specification and evidence of record fail to attribute any significance (novel or unexpected results) to a particular arrangement, the particular arrangement is deemed to have been a design consideration within the skill of the art. The device of Mackenzie et al. would operated equally as well if a circumferential porous ring where added to the outer surface of the spherical body since the water would still enter in a channel/passage in the spherical body for the same purpose of providing fluid communication to a water pressure sensor. Therefore, to employ Mackenzie et al. on a circumferential porous ring would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a porous spherical body including a channel providing fluid communication to a pressure sensor.

Re claim 17, Mackenzie et al. discloses the shaft (33) being adapted to associated with a module {e.g., electric circuit (41) a load cell (37) including strain gauge (40), and an accelerometer all of which are in the strain gauge housing (39)} containing an axial force measuring sensor (e.g., accelerometer, strain gauge (40)) (Pg. 1, Pars. 12-24; Pg. 3, Pars. 60, 78-82). As depicted in fig. 3, the shaft (33) and the attached spherical body (e.g., domed/hemispherical shaped penetrating tip 30) moves in v**ertical direction** upon impact of soil/snow which is equivalent axial movement. Mackenzie et al. discloses that the accelerometer may be apart of or separate unit in the head (20, 30) as long as it movement is parallel the movement of the head (Pg. 2, par. 25). As depicted in fig. 3, the head (30) moves in a vertical up/direction which is equivalent to a bi-directional

movement. Since the accelerometer moves parallel to the bi-directional movement of the head (30), the accelerometer measures bi-directional force.

Re claim 18, as depicted in fig. 3, Mackenzie et al. discloses at least one flexible sealing member (See o-ring between element numbers (31) and (32)) that associates the sleeve (e.g., tube 36) with the spherical body (e.g., hemispherical/domed penetrating tip 30). Mackenzie et al. discloses at least one flexible sealing member (See o-ring between element numbers (43) and (41)) that associates the sleeve (e.g., tube 36) with the housing of the module (e.g., strain gauge housing 39).

Re claim 19, as depicted in figs. 1 and 3, Mackenzie et al. discloses the pressure sensor is located within the module and the shaft (33) includes a least one passage providing fluid communication to the pressure sensor (Pg. 2, par. 34).

Re claim 20, as depicted in fig. 1, Mackenzie et al. discloses a radial passage (See opening on surface of spherical body 20,20A).

Re claim 21, as depicted in fig. 3, Mackenzie et al. discloses an electronics module (e.g., combination of electronics circuitry (41) in housing (39)).

Re claim 22, as depicted in fig. 3, Mackenzie et al. discloses an electronics module (e.g., combination of electronics circuitry (41) in housing (39)). While Mackenzie et al. lacks the detail of **interchanging different types of electronics modules, Mackenzie et al. discloses it may be desirable to add sensors to the sensing unit (See Pg. 2, par. 34).** Furthermore the court held in In re Dulberg, 283 F.2d 522, 129 USPQ 348 (CCPA 1961), that the separation of elements, where removability would be desirable, is a design consideration within the skill of the art. Since changing the electronic the module,

requires removing on electronic module and replacing it another, the interchangeable module is equivalent to removable module. Therefore, to employ Mackenzie et al. on an interchangeable electronics module would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches adding additional components/sensors to a module.

Re claim 23, as depicted in fig. 3, Mackenzie et al. discloses at least one flexible sealing member (See **o-ring** between element numbers (31) and (32)) that associates the sleeve (e.g., tube 36) with the spherical body (e.g., hemispherical/domed penetrating tip 30). Mackenzie et al. discloses at least one flexible sealing member (See **o-ring** between element numbers (43) and (41)) that associates the sleeve (e.g., tube 36) with the housing of the module (e.g., strain gauge housing 39).

Re claim 24, as depicted in fig. 1, Mackenzie et al. discloses a hemispherical body (20, 20A) including a passage/channel. While Mackenzie et al. does not specifically disclose the spherical body is constructed from two hemispherical bodies together that define at least one passage, the court held in In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), that a change in the shape of a prior art device is a design consideration within the skill of the art. Therefore, to employ Mackenzie et al. on a spherical body constructed of two hemispherical bodies would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a hemispherical body having a channel within.

Re claim 25, as depicted in figs. 3 and 4, Mackenzie et al. discloses spherical body (e.g., domed/hemispherical shaped penetrating tip 30) attached to the end of a shaft (33)

(Pg. 2, Par. 56). Mackenzie et al. discloses the shaft (33) being of substantially smaller diameter than the diameter of the spherical body (e.g., domed/hemispherical shaped penetrating tip 30). Mackenzie et al. discloses the shaft (33) being adapted to associated with a module {e.g., electric circuit (41) a load cell (37) including strain gauge (40), and an accelerometer all of which are in the strain gauge housing (39)} containing an axial force measuring sensor (e.g., accelerometer, strain gauge (40)) and data transmitter (Pg. 1, Pars. 12-24; Pg. 3, Pars. 60, 78-82). As depicted in fig. 3, the shaft (33) and the attached spherical body (e.g., domed/hemispherical shaped penetrating tip 30) moves in **vertical direction** upon impact of soil/snow which is equivalent axial movement. While Mackenzie et al. does not specifically disclose an ellipsoidal body, the court held in In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), that a change in the shape of a prior art device is a design consideration within the skill of the art. Therefore, to employ Mackenzie et al. on an ellipsoidal body would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a hemispherical body. While Mackenzie et al. does not specifically disclose a sleeve adapted **to isolate the shaft from external soil friction**, as depicted in fig. 3, Mackenzie et al. discloses a sleeve member (e.g., tube 36) enclosing the shaft (33), wherein the shaft (33) is not in direct contact with the soil. Therefore, to employ Mackenzie et al. on sleeve that isolates the shaft from external soil friction would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a sleeve that encloses a shaft.

Re claim 26, as depicted in figs. 3 and 4, Mackenzie et al. discloses spherical body (e.g., domed/hemispherical shaped penetrating tip 30) attached to the end of a shaft (33) (Pg. 2, Par. 56). Mackenzie et al. discloses the shaft (33) being of substantially smaller diameter than the diameter of the spherical body (e.g., domed/hemispherical shaped penetrating tip 30). Mackenzie et al. discloses the shaft (33) being adapted to associated with a module {e.g., electric circuit (41) a load cell (37) including strain gauge (40), and an accelerometer all of which are in the strain gauge housing (39)} containing an axial force measuring sensor (e.g., accelerometer, strain gauge (40)) and data transmitter (Pg. 1, Pars. 12-24; Pg. 3, Pars. 60, 78-82). As depicted in fig. 1 and 3, Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) is provided with a porous material (See fig. 1, radial opening in surface of spherical body (20,20A). Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) includes at least a passage/channel providing for fluid communication between the porous material (See fig. 1, e.g., radial opening in surface of spherical body (20)) and a pressure sensor Pg. 2, Par. 34). While Mackenzie et al. does not specifically disclose an ellipsoidal body, the court held in <u>In re Dailey</u>, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), that a change in the shape of a prior art device is a design consideration within the skill of the art. Therefore, to employ Mackenzie et al. on an ellipsoidal body would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a hemispherical body.

Re claims 27 and 28, Mackenzie et al discloses forcing a ball penetrometer (e.g., domed/hemispherical penetrometer) to penetrate a soil bed, measuring the force of

resisting penetration, and transmitting data to a remote station (Pg. 1, pars. 11-14; Pg. 3, pars. 78-82). The only differences between claims 28 and 29 and Mackenzie et al. is forcing the ball into the soil bed **at a known rate.** Mackenzie et al. the use of an accelerometer eliminates the need for the head having a constant velocity and enables the head to be manually driven in to the soil (Pg. 1, par. 25; Pg.3, par. 25) However, Mackenzie et al. discloses another embodiment (fig. 1) that a piston (22) to push a ball (20) into the soil bed (Pg. 2, par. 56). The piston can easily be adjusted to provide force of a known rate. Although the rejection is made based on a combined embodiments (See figs. 1 and 3), the court held in In re Burckel, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979), that reference is not limited to its preferred embodiment, but must be evaluated for all of its teachings, including its teachings of non-preferred embodiments. Therefore, to employ Mackenzie et al. on forcing a ball penetrometer to penetrate the soil bed at a known rate would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a piston with a known rate that is used to drive a ball penetrometer.

Re claim 29, Mackenzie et al. discloses withdrawing the ball penetrometer and measuring the force resistance (Pg. 1, pars. 12-14).

Re clam 30, as depicted in fig. 1 and 3, Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) is provided with a porous material (See fig. 1, radial opening in surface of spherical body (20,20A). Mackenzie et al. discloses the spherical body (e.g., domed/hemispherical shaped penetrating tip 30/20, 20A) includes at least a passage/channel providing for fluid communication between the

porous material (See fig. 1, e.g., radial opening in surface of spherical body (20)) and a pressure sensor measuring water pressure (Pg. 2, Par. 34).

Re claim 31, Mackenzie et al. discloses measurements taken as a function of depth into the soil or of time (Pg. 1, pars. 14-16).

Re claims 32, Mackenzie discloses a ball penetrometer deployed on soil. While Mackenzie et al. does not specifically disclose the ball penetrometer is deployed on the seafloor, the court held in In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Yanush, 477 F.2d 958, 177 USPQ 705 (CCPA 1973); In re Finsterwalder, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963); Ex parte Masham, 2 USPQ2d 1647 (BdPatApp & Inter 1987), that recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim. This device would operate equally as well since there seafloor contains soil. Therefore, to employ Mackenzie et al. on deploying a ball penetrometer on the seafloor would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a ball penetrometer on soil.

Re claim 33, Mackenzie et al. discloses a connection rod (e.g., main shaft 43).

Re claim 34, Mackenzie et al. discloses data transmitted remotely (Pg. 3. pars. 78-82).

Re claim 36, as depicted in figs. 1 and 3, Mackenzie et al. discloses the pressure sensor is located within the module and the shaft (33) includes a least one passage providing fluid communication to the pressure sensor (Pg. 2, par. 34).

Re claim 37, as depicted in fig. 1, Mackenzie et al. discloses a radial passage (See opening on surface of spherical body 20,20A).

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mackenzie et al. (2005/0076709) in view of Bratton et al. (6,644,423).

Re claim 35, Mackenzie et al. discloses data transmitted remotely (Pg. 3. pars. 78-82). Mackenzie et al. lacks the detail of penetrometer deployed via wireline drill string. Bratton et al. discloses a wireline device for pushing tools. Therefore, to modify Mackenzie et al. by employing a wireline would have been obvious to one of ordinary skill in the art at the time of the invention since Bratton et al. teaches a wireline having theses design characteristics. The skilled artisan would be motivated to combine the teachings of Mackenzie et al. and Bratton et al. since Mackenzie et al. states that his invention is applicable to push type penetrometer and Bratton et al. is directed to using with a wireline connected to penetrometer.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAMIKO D. BELLAMY whose telephone number is (571)272-2190. The examiner can normally be reached on Monday - Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamiko Bellamy
/TB/
April 11, 2008

/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856